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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/035,819	11/08/2001	Anatoly Maksimchuk	2115D-001905	1781

27572 7590 11/13/2003

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EXAMINER

RICHARDSON, JOHN A

ART UNIT PAPER NUMBER

3641

DATE MAILED: 11/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Applicati n N .

10/035,819

Applicant(s)

MAKSIMCHUK ET AL.

Examiner

John Richardson

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3641

-- The MAILING DATE of this communicati n appears on th cover sheet with the corresp ndence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 29 September 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) 12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11, 13-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

**DETAILED ACTION**

***Non Final Rejection***

1). Applicant's election with traverse of species A, E, boron, boron-10, in Paper No. 7 is acknowledged. The traversal of the election of species identified in 4) of Office action Paper No. 6 on the grounds that boron-10 and boron-11 are both isotopes of the elected species boron. This is not found persuasive because the species identified encompass several other nuclides for the secondary target in addition to boron-10, and boron-11.

The requirement is still deemed proper and is therefore made FINAL.

2). Claim12 is withdrawn from further consideration pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, there being no allowable generic or linking claim. Applicant timely traversed the restriction (election) requirement in Paper No. 7.

3). The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

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4). The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5). Claim 5 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, the claim recites the limitation "laser beam repetition rate greater than or equal to about  $10^{-3}$  Hertz. The cited limitation is inconsistent with the specification disclosure, see for example, paragraph [0040]. There is no adequate description nor enabling disclosure of the duration of the irradiation repetition period implied by the cited limitation, for example, is there a ramp up time period to achieve the cited rate, is the cited rate held for a specific period of time, or is the rate a fluctuating rate?

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6). Claims 1 to 4, 6 to 11, 13 to 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Maksimchuk et al (Physical Review May 01 2000-transcript received September 03 1999).

The reference discloses as means for generating a collimated beam of fast protons focused onto a solid target at a cone angle of 40 degrees +/- 10 degrees resulting in high-density laser pulse energy conversion at electron / ion energy levels of  $2 \times 10^{18}$  watts per  $\text{cm}^2$  with nanosecond pulse rates equal to about  $10^{-9}$  seconds, relating to claim 2, the reference discloses beam energy spectrums of about 100 Kev, relating to claim 3, the reference discloses a particle beam included angle of  $40^\circ$ , relating to claim 4, the reference discloses high-intensity pulse durations in the sub-picosecond range, relating to claims 6, 16, the reference discloses a solid target, such as thin foil, relating to claims 7-11, 14, 17-20, the reference discloses a merged secondary target of the said foil with deuterated plastic to produce nuclides of  $\text{C}^{11}$  particle interaction of excited nuclei of deuterons and neutrons from  $\text{B}^{10}$ , relating to claim 13, the reference discloses isotopes of  $\text{C}^{11}$  with half-life of 20.3 minutes that is greater than the said pulse interval of  $10^{-9}$  seconds.

7). Claims 1,2,15 are rejected under 35 U.S.C. 102(b) as being anticipated by Umstadter et al (U.S. 5,789,876).

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The reference discloses a means for generating laser beams focused on a plasma producing particles, such as, Bremsstrahlung electrons and high-energy photons, at laser pulses in the nano-second region of  $10^{-9}$  seconds (see for example, Column 10, lines 62+), and energy intensity in the region of  $10^{18}$  watts /  $\text{cm}^2$  (see for example, Column 12, lines 33-36, Column 19, lines 14-19), relating to claim 2, the reference discloses an energy range encompassing the cited level of 100Kev (see for example, Column 18, lines 38-41)

8). The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

9). Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Richardson whose telephone number is (703) 305 0764. The examiner can normally be reached on Monday to Thursday from 7.00 AM to 4.30 PM. The examiner can also be reached on alternate Fridays.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone, can be reached on (703) 306 4198. The fax phone number for the organization where this application or proceeding is assigned is (703) 305 7687.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308 1113.

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John Richardson, PE,

November 03 2003.

  
HAROLD J. TUDOR  
PRIMARY EXAMINER